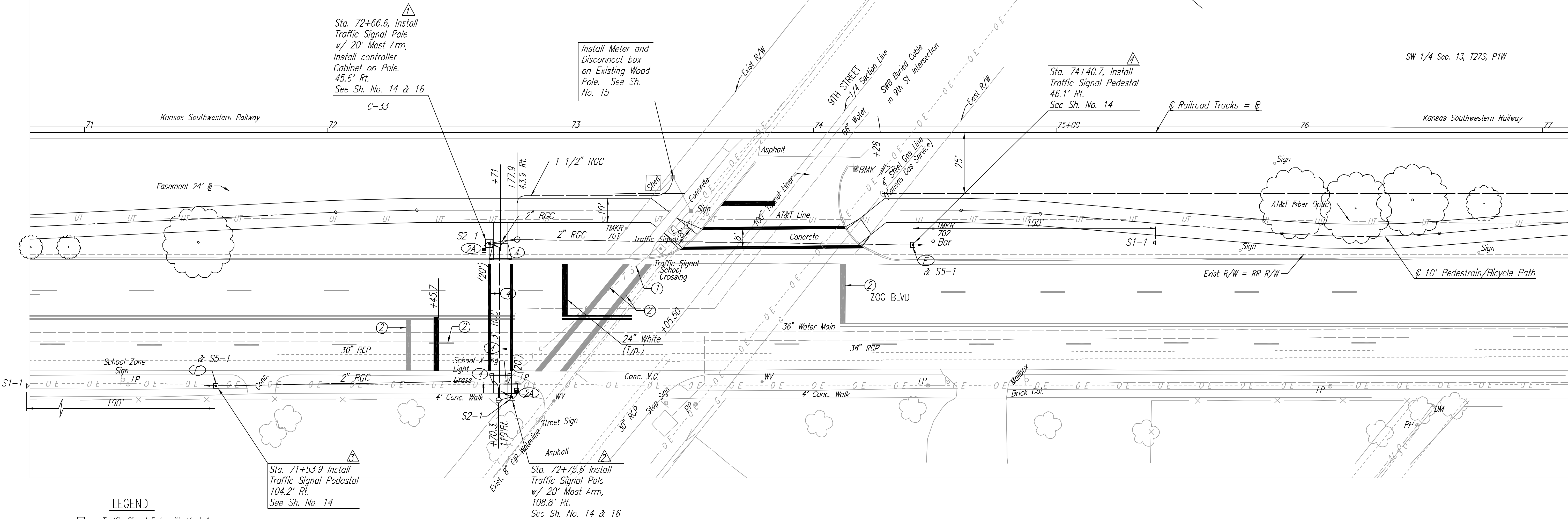


PROJECT NO.	SHEET NO.	TOTAL SHEETS
472-83247 87-TE-0159-01	12	24

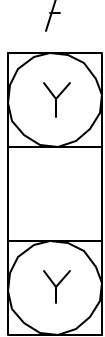
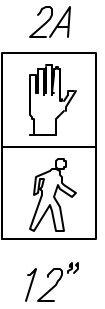
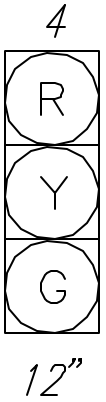
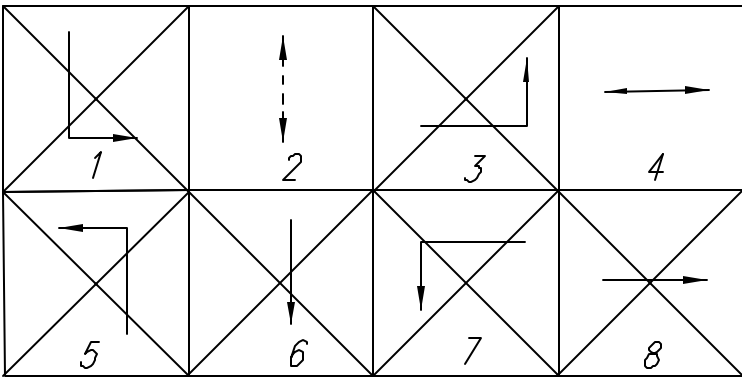
CONTROLLER DESCRIPTION

The Traffic Signal Controller shall comply with the requirements defined in the Specifications for a Type 170E Controller with Motorola 68HC11 processor chip, 412b prom module and a 400 modem. It shall be furnished and installed with a Model 336 cabinet, 2-type 242 isolator units, 2 switch packs, 2-type 204 flashers, 4 flash transfer relay, and a Model 210P conflict monitor MS or ECL. The Controller shall also be furnished with WAKS Version 58 or latest version of software developed by WAPITI MICRO SYSTEMS.

SCALE: 1"=20'



- LEGEND
- Traffic Signal Pole with Mast Arm
  - Traffic Signal Pedestal
  - Traffic Signal Head
  - Traffic Signal Head with Backplate
  - Pedestrian Signal Head
  - Controller
  - PRE-FAB Junction Box
  - Rigid Galvanized Conduit (RGC)
  - Signal Phase
  - Signal Pole Reference Number



NOTE: FLASHING BEACON SHALL BE CONTROLLED BY AN INTERNAL TIME, DAY-OF-WAY CLOCK. TIME SETTINGS TO BE FURNISHED BY CITY OF WICHITA. TOP AND BOTTOM HEADS SHALL FLASH ALTERNATELY.

① AT THE CONTRACTOR'S OPTION AND WITH THE APPROVAL OF THE ENGINEER THE EXISTING CONDUIT UNDER ZOO BLVD. PAVEMENT MAY BE CLEANED AND REUSED IN LIEU OF PROPOSED CONDUIT SHOWN.

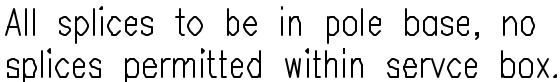
② REMOVE EXISTING PAVEMENT MARKING AS DIRECTED BY THE ENGINEER.

ZOO BOULEVARD BIKE PATH  
CENTRAL TO WESTDALE

TRAFFIC SIGNAL PLAN  
ZOO BLVD. & 9TH STREET

**Professional Engineering Consultants, P.A.**  
303 S. TOPEKA • WICHITA, KANSAS 67202  
316-262-2691 • FAX 316-262-3003

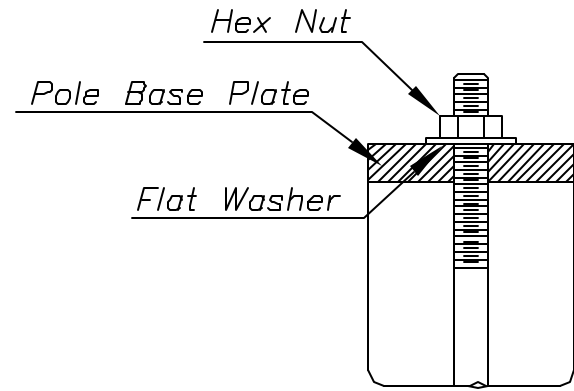
Designed by	BER	Checked by	
Drawn by	SAW	Date	DECEMBER 2001 Job No. 96450-002



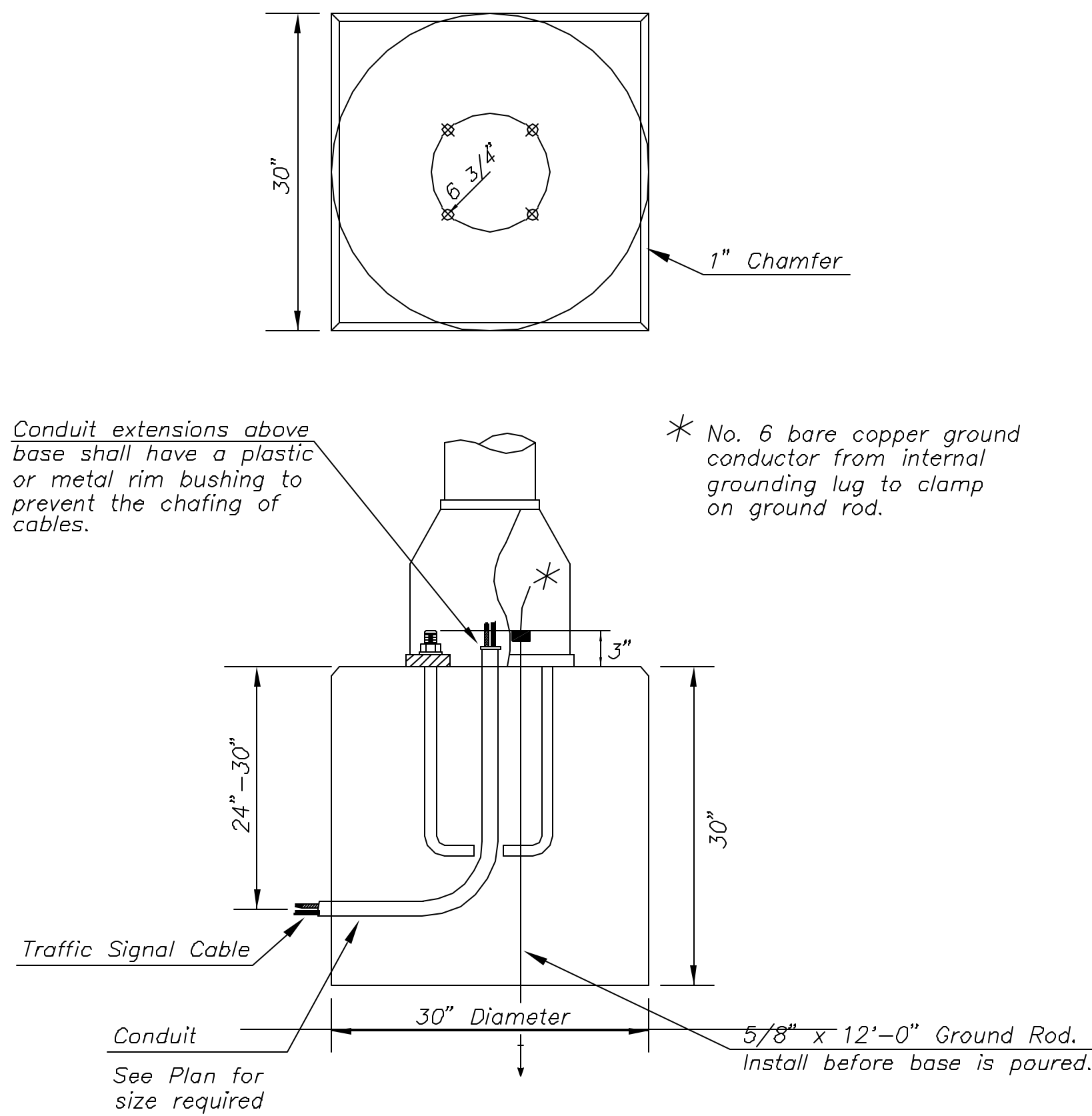
NOTE: The traffic signal system shall be complete and the contractor shall furnish and install all equipment and materials necessary for the satisfactory operation of electrical apparatus and for the complete operation of the traffic signal system whether specifically mentioned or not.

DSNR: SJD OPER: SJD SCALE: 1=1.00  
Q:\1996\96450\002\PEDESTAL.DWG 09-04-2002 09:55:52 am

Use Keystone "No-Weld  
Number 1 Anti-Seize  
Compound" on all  
bolts & nuts.

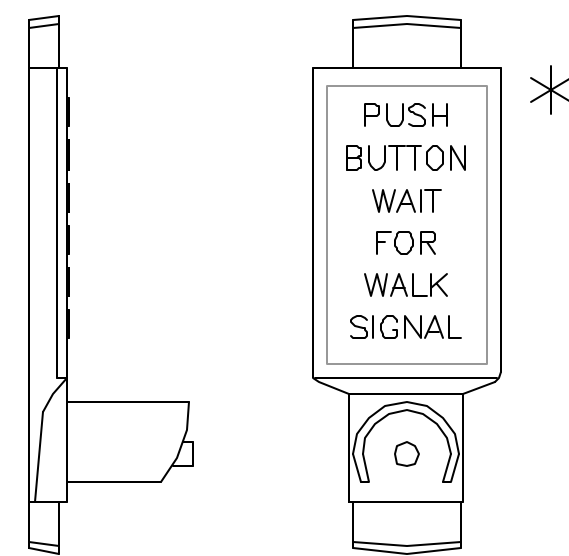


ANCHOR BOLT DETAIL



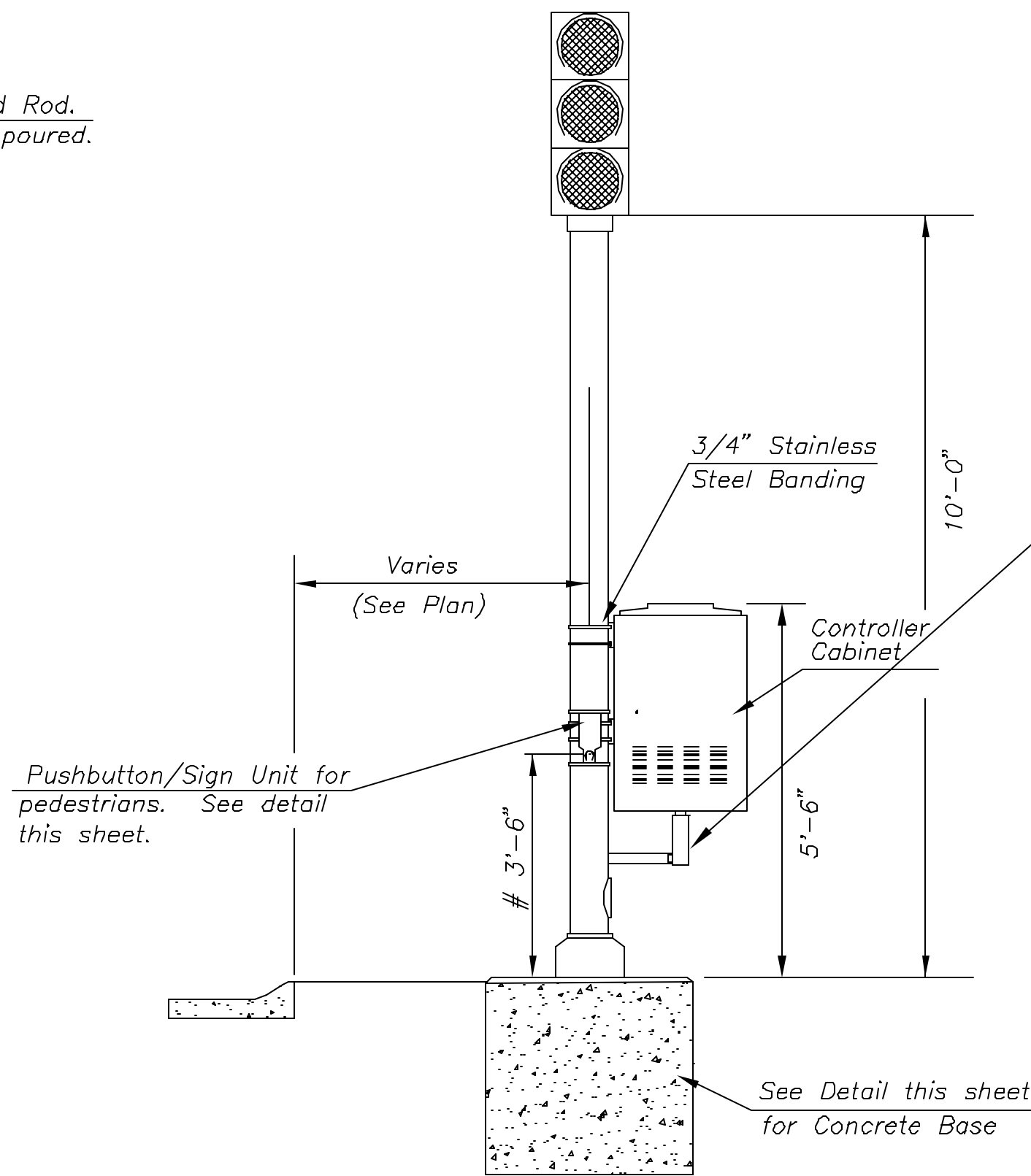
CONCRETE BASE DETAIL

\*NOTE: MESSAGE TO BE CAST WITH HOUSING  
(ONE PIECE)

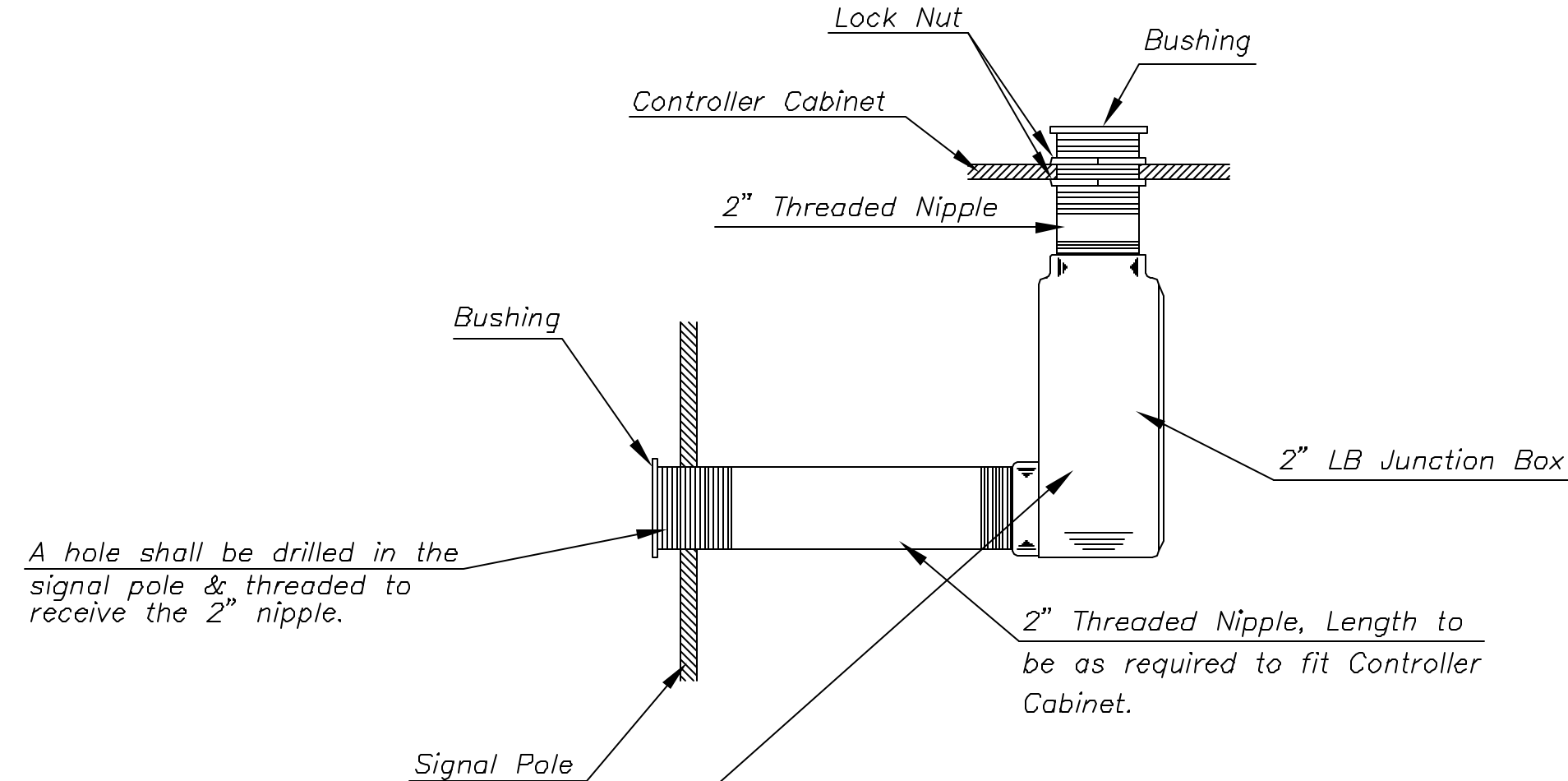


PEDESTRIAN PUSHBUTTON/SIGN  
UNIT DETAIL

INSTALL PEDESTRIAN PUSHBUTTON UNDERNEATH  
CORRESPONDING PEDESTRIAN SIGNAL HEAD ON  
SIDE OF POLE NEAREST CROSSWALK.  
UNIT SHALL BE FIRMLY ATTACHED TO THE  
SIDE OF POLE WITH 3/4" STEEL BANDS.  
SHARP ENDS SHALL BE FOLDED UNDER TO  
PREVENT INJURY TO PEDESTRIANS.



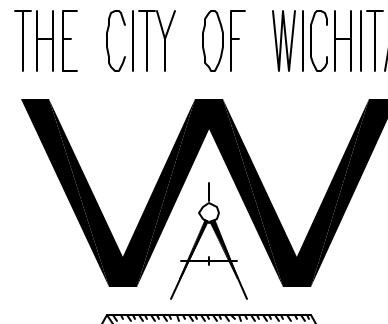
TRAFFIC SIGNAL PEDESTAL



A hole shall be drilled in the  
signal pole & threaded to  
receive the 2" nipple.

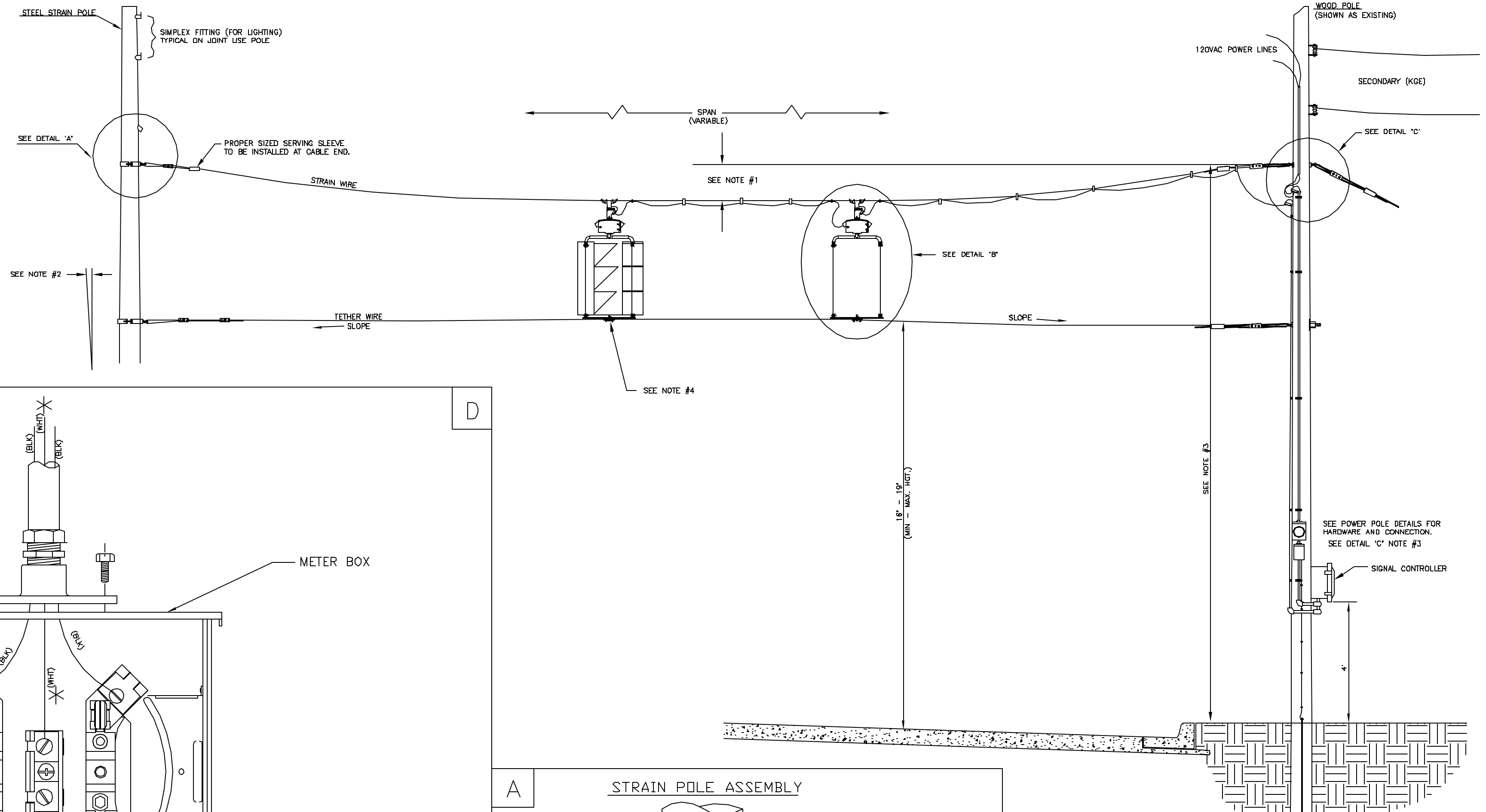
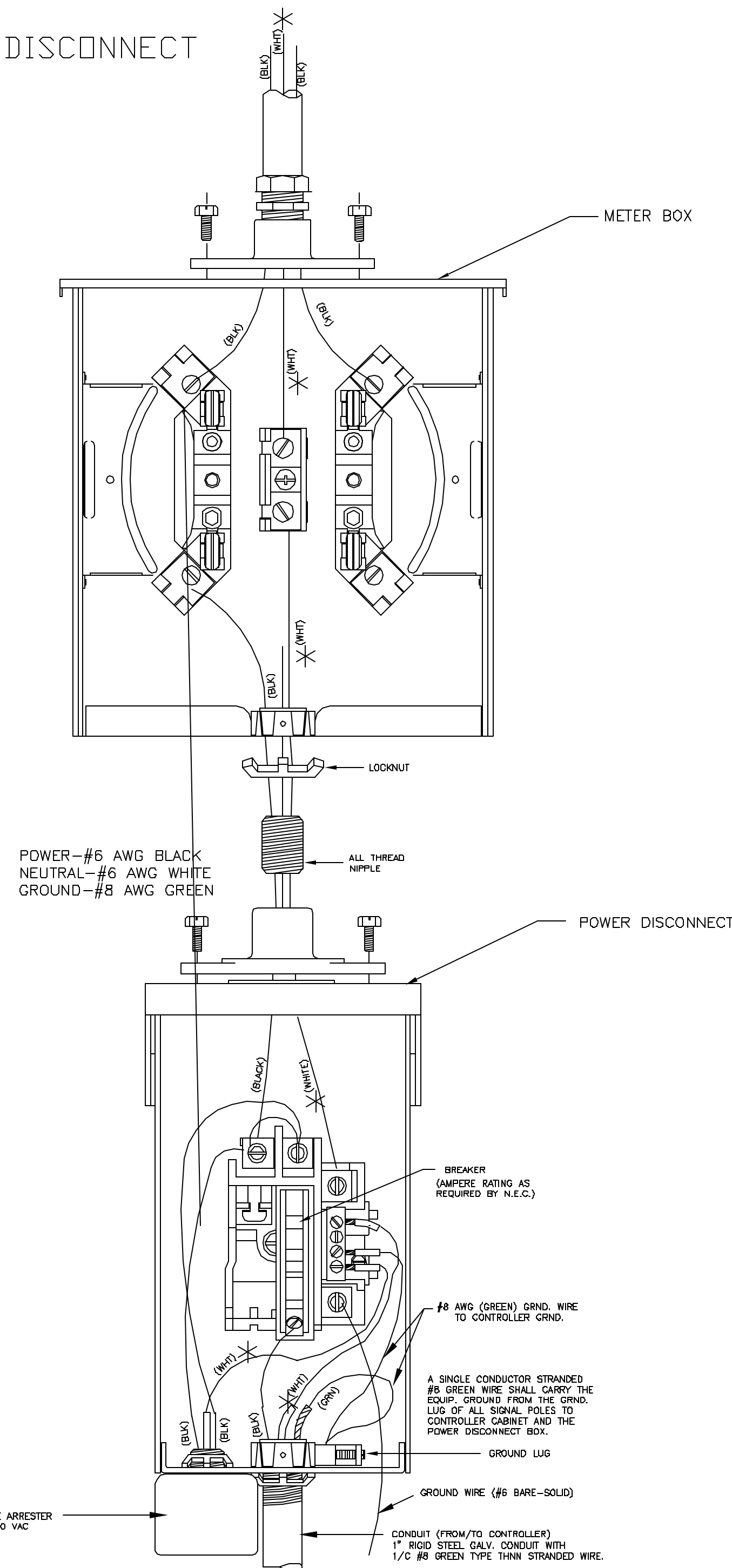
2" Threaded Nipple, Length to  
be as required to fit Controller  
Cabinet.

# From Sidewalk Finish Grade  
to Center of Pushbutton.

 CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 425 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX	200 BOULEVARD BIKE PATH		
	TRAFFIC SIGNAL PEDESTAL & CONCRETE BASE DETAIL SHEET		
	PROJECT NUMBER 472-83247 87-TE-0159-01		
	DRAWN BY: T.M. DATE: MAY 97	SCALE NO SCALE	REVISED BY: DATE:
	CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS		DIVISION OF TRAFFIC ENGINEERING WM. G. MCKINLEY P.E. TRAFFIC ENGINEER
		SHEET 14 OF 24	

1. MAX. SAG = 5% OF SPAN.
2. STANDARD BACKRAKE = 1.5%
3. HEIGHT OF STRAIN WIRE HOOK-UP TO BE DETERMINED BY FIELD ENGINEER.  
TRAFFIC SIGNAL CABLE TO BE SECURED TO STRAIN (SPAN) WIRE WEATHERABLE NYLON CABLE HANGERS (12" CTR.) DETAIL 'B'
4. TETHER CLAMP TO BE DESIGNED TO RELEASE UNDER 'HIGH WIND LOAD' TO PERMIT SIGNAL 'FREE SWING'.

NOTE:  
\*TO BE MARKED WITH WHITE TAPE



NOTE: SEE STEEL POLE  
ASST DETAIL SHEET FOR  
STRAIN POLE BASE DETAILS

STRAIN AND TETHER WIRE:  
GALV. GUY STRAND (T-WIRE)  
5/16" DIA (3350 FT/LB) WEIGHT  
PER 1000 @ 205

CABLE EXIT  
MULTI-CONDUCTOR SIGNAL CABLE

THIMBLE EYE NUT (GALV.)  
ASSEMBLY

STRAIN CLAMP

STRAIN WIRE (5/16" DIA.)

3-BOLT GUY CLAMP

Diagram illustrating the antenna assembly components and connections:

- BLACK WEATHERABLE NYLON TIE WRAP CABLE TIES (CLIP EXCESS STRAP)
- 5/16" STRAIN WIRE
- CABLE SHOULDER CLAMP
- MULTI-CONDUCTOR SIGNAL CABLE
- WIRE ENTRANCE/BALANCE ADJUST CIRCUIT (CLICK-DISCONNECT HANGER)
- TOP BRACKET (FOR SIGNAL ASS'Y)
- BOTTOM BRACKET
- 5/16" TETHER WIRE
- 3-BOLT GUY CLAMP (NOTE MTR. TO BOTTOM BRACKET)
- SIGNAL FASTENER ASS'Y.
- DRILL: 1/2" HOLE EXTRA LENGTH BOLT

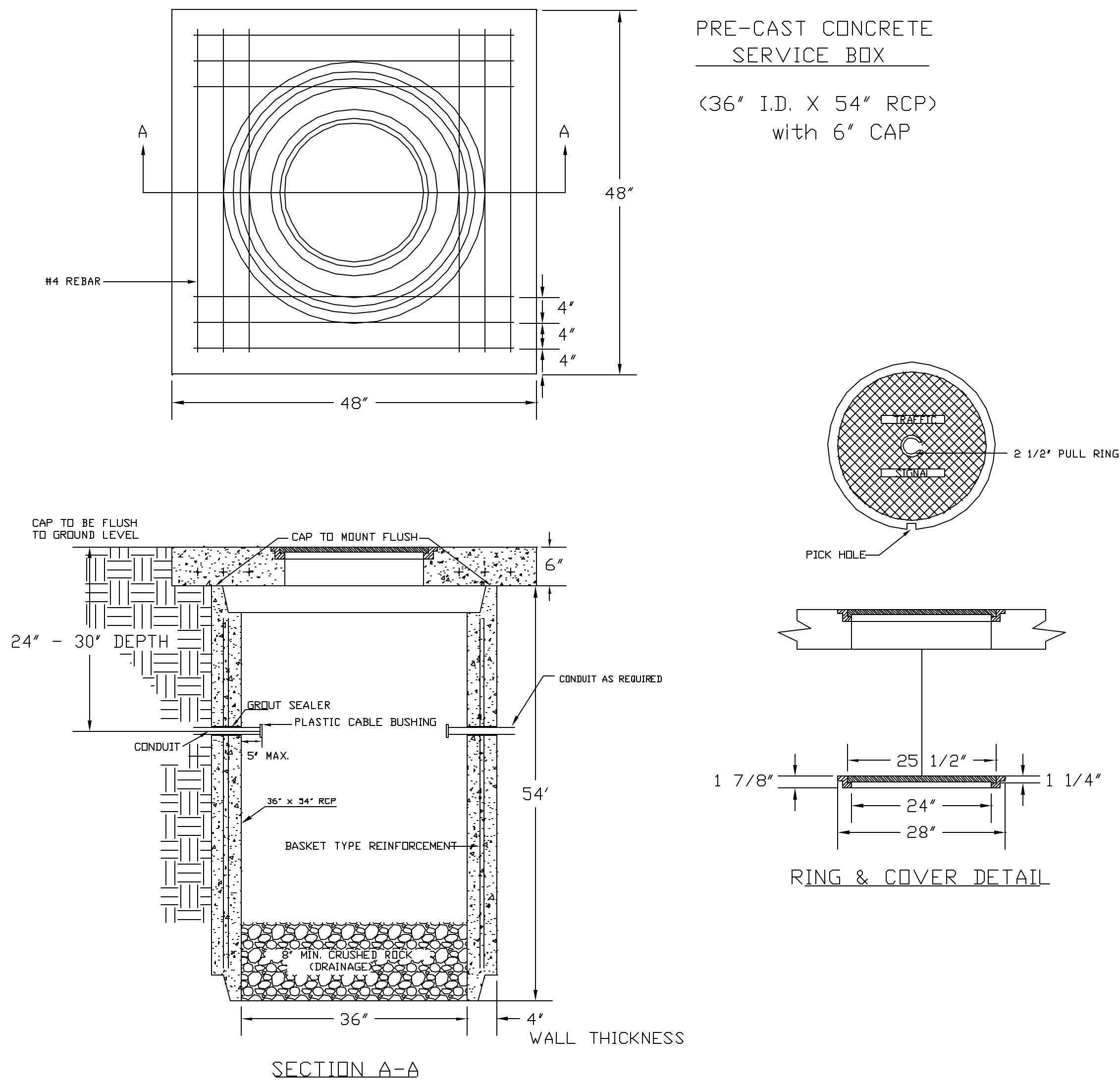
NOTE:

1. GALV. THIMBLE EYE ANCHOR BOLT AND EXPANDING ANCHOR (NOT SHOWN) TO STABILIZE WOOD POLE (WHERE APPLICABLE)
2. ANY COMBINATION OF ROUND/THIMBLE EYE BOLTS AND NUTS MAY BE UTILIZED AS APPLICATION MAY VARY. FIELD ENGINEER TO DETERMINE TYPE OF HARDWARE USED.
3. HARDWARE SHOWN IS TRANSFERABLE TO STEEL POLE IN WHOLE OF PART WHERE STEEL STRAIN POLE IS USED. (POWER, SIGNAL CABLE, METER, ETC.) FIELD ENGINEER TO DETERMINE. STEEL STRAIN POLE APPLICATIONS MAY VARY TO MOUNTING ON POLE. USE OF GALV. BUNDLED BRACKETS, ETC. ARE STD. - FIELD ENGINEER TO DETERMINE BEST TYPE APPLICATIONS.

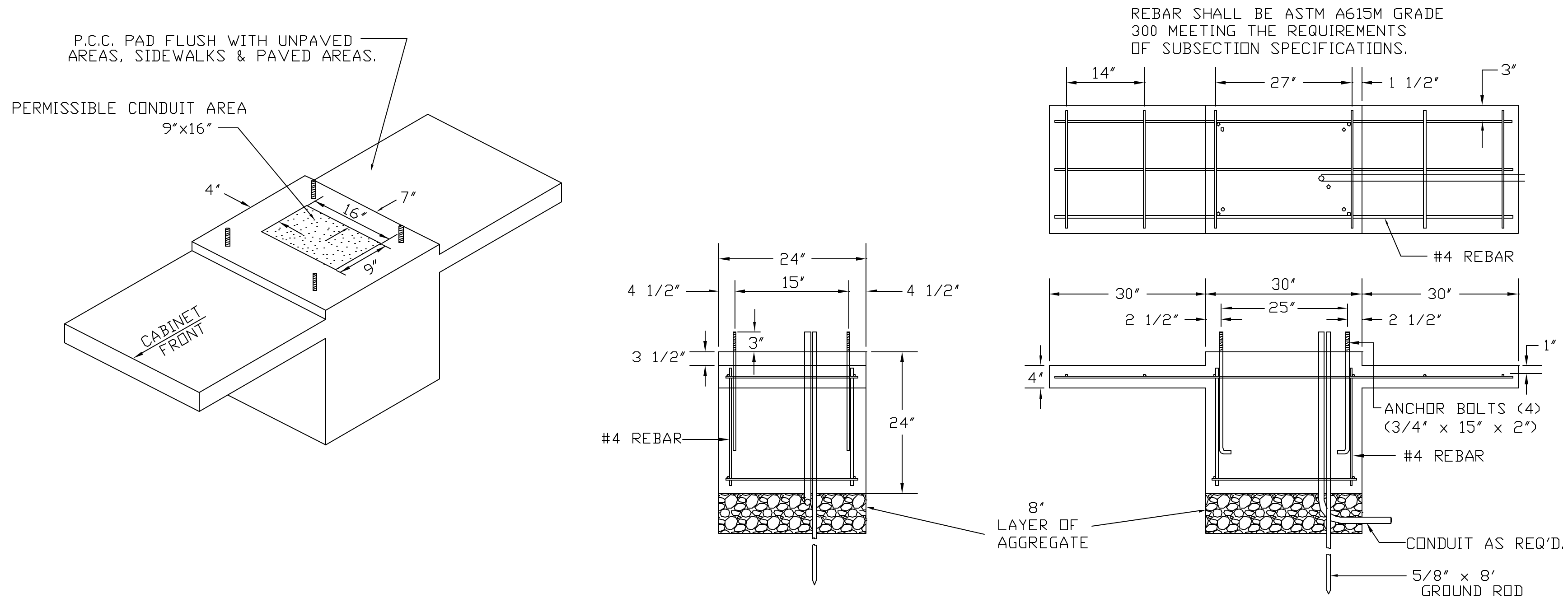
PROJECT NUMBER		
472-76-245-83247-000-000-001		
DRAWN BY: T.M.	SCALE	REVISED BY: L. B.
DATE: FEB. 96	NO SCALE	DATE: 2/26/99
CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS		
DIVISION OF TRAFFIC ENGINEERING		SHEET 15 OF 24
WM. G. MCKINLEY P.E.	TRAFFIC ENGINEER	

OSNR: SAD OPER: SAD SCALE: 1=1.00  
2:\1996\96450\002\POWP-SP 09-04-2002 09:56:50 am

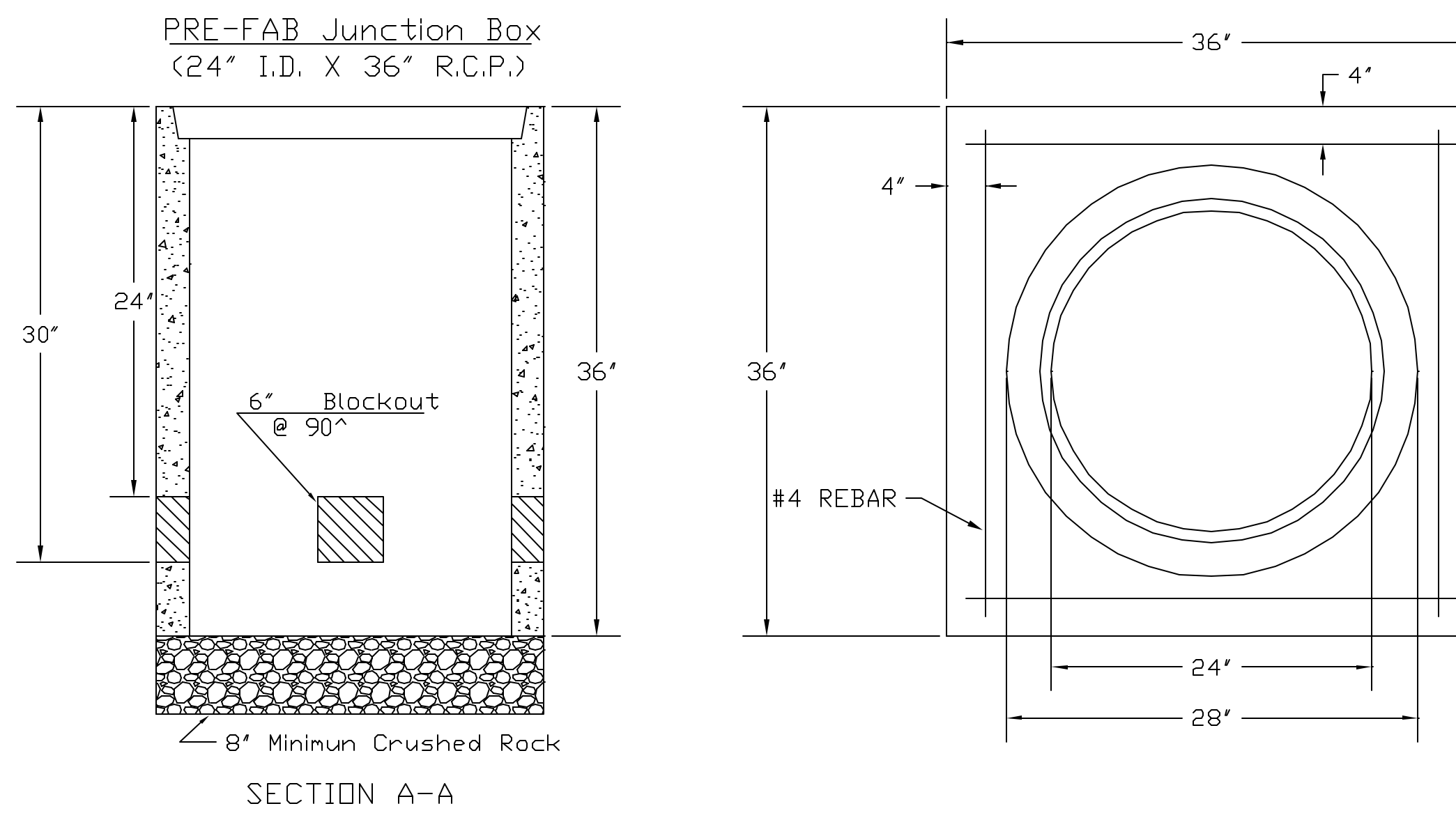
SERVICE BOX CONSTRUCTION/INSTALLATION DETAILS



170 CONTROLLER PAD DETAILS



JUNCTION BOX DETAILS



JUNCTION BOX CAP  
36" x 36" x 6"  
TOP OF CAP TO BE FLUSH WITH GROUND LEVEL.

NOTES:

SERVICE & JUNCTION BOX:

- CONDUIT CONNECTION TO BE FLUSH TO WITHIN 125 mm OF INSIDE FACE OF SIDE WALL, CONDUIT TO DRAIN INTO SERVICE BOX.
- CONDUIT CONNECTIONS TO SERVICE BOX SHALL BE TERMINATED WITH PLASTIC CABLE BUSHING.
- CONDUIT SHALL BE SEALED WITH APPROVED SEALER AT INSIDE WALL FACE.
- ALL SERVICE & JUNCTION BOXES TO HAVE 200 mm OF CRUSHED ROCK.

TRENCHING:

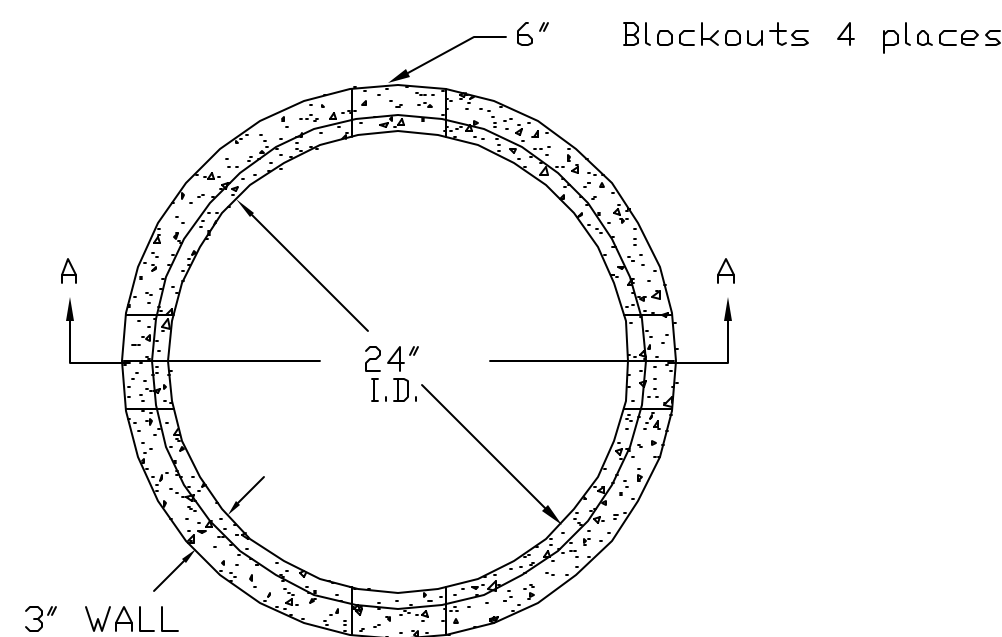
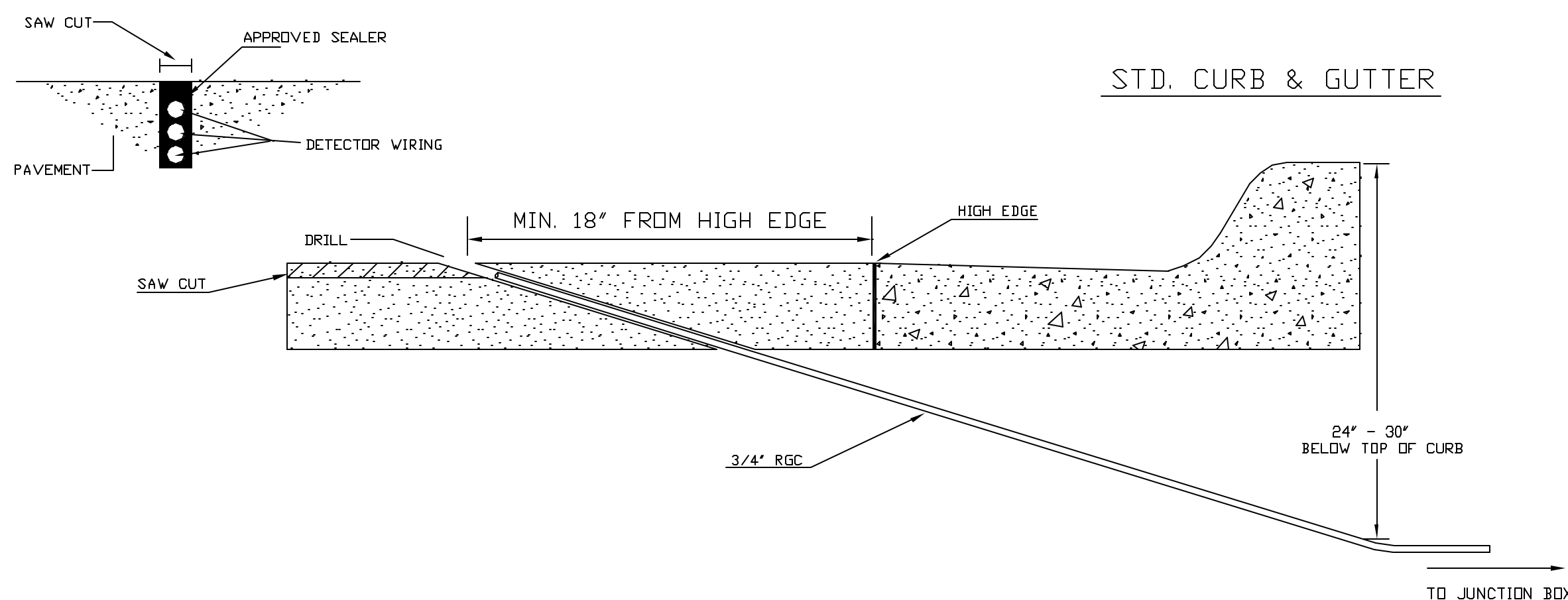
- DEPTH TO BE 30" MINIMUM WITH ROCK & STUBBLE FREE BACKFILL TO SERVE AS BEDDING MATERIAL. MAINTAIN MINIMUM CONDUIT DEPTH IN TRENCH.
- BACKFILL TO BE COMPACTED IN 6" LOOSE LIFTS BY HAND OR MECHANICAL TAMPING TO A 95% STANDARD DENSITY.

CONDUIT:

- SLOPE CONDUIT TO DRAIN AS DIRECTED BY THE ENGINEER.
- 3" RIGID STEEL CONDUIT BTWN. SERVICE BOXES.  
1 1/4" " " " BTWN. SERVICE & JUNCTION BOXES.  
3/4" " " " BTWN. JUNCTION BOXES.  
3/4" " " " BTWN. JUNCTION BOX & DETECTOR LOOP SAW CUT

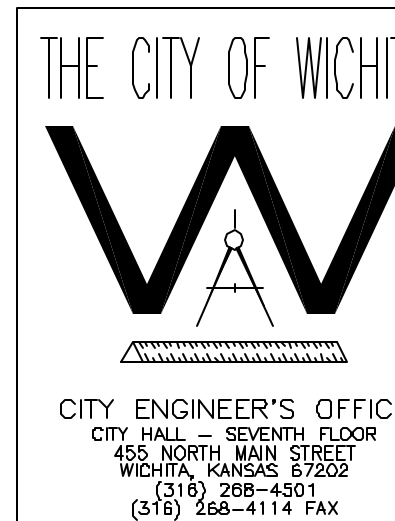
SERVICE/JUNCTION BOX, CONTROLLER PAD  
CONSTRUCTION/INSTALLATION DETAILS

CONDUIT/DETECTOR WIRE INSTALLATION DETAILS



\*\*SEE SERVICE BOX INSTALLATION FOR RING & COVER DETAILS.

REV. DATE	COMMENTS	INT



200 BOULEVARD BIKE PATH		
SERVICE/JUNCTION BOX, CONTROLLER PAD CONSTRUCTION/INSTALLATION DETAILS		
PROJECT NUMBER 472-76-245-83247-000-000-001		
DRAWN BY: T.M.	SCALE NO SCALE	REVISED BY:
DATE: MAY 97		DATE:
CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS		
DIVISION OF TRAFFIC ENGINEERING WM. G. MCKINLEY P.E. TRAFFIC ENGINEER		SHEET 16 OF 24

DSNR: S:\00 OPER: S:\00 SCALE: 1=3.00  
C:\1996\96450\002\QUANTITIES 09:58:41 am

PROJECT NO.		SHEET NO.	TOTAL SHEETS
472-83247 87 TE-0159-01		17	24

REMOVAL OF EXISTING STRUCTURES ✂		
STATION	SIDE	ITEM
38+35-38+68	Rt.	Concrete Sidewalk
38+83-39+48	Rt.	Striping
39+67-46+90	Rt.	Chain Link Fence
39+69-46+90	Rt.	Concrete Sidewalk
59+28-59+38	Rt.	Concrete Sidewalk
59+50	Rt.	Curb
59+52-59+61	Rt.	Striping
59+85-60+23	Rt.	Striping
60+64	Rt.	Curb
73+42	Rt.	Traffic Signal Controller
73+50	Rt.	Curb
74+16	Rt.	Curb
℄ 72+33	77' Rt.-98' Rt.	Striping
℄ 72+87, 98' Rt. - ℄ 73+23, 54' Rt.	Striping	
℄ 72+97, 98' Rt. - ℄ 73+32, 54' Rt.	Striping	
℄ 74+12	54' Rt.-79' Rt.	Striping
72+42-72+52	Rt.	Striping

✂ TO BE CONSIDERED INCIDENTAL  
TO "CLEARING RIGHT OF WAY".


SUMMARY OF SIDEWALK		
STATION TO STATION	SIDE	QUANTITY (S.F.)
20+36.53-38+67.5	Rt.	18,474
39+48-59+38	Rt.	20,009
60+44-73+42	Rt.	12,853
74+16-104+71.54	Rt.	30,676
TOTAL		82,012

SUMMARY OF LINEAR GRADING		
STATION TO STATION	SIDE	QUANTITY (Sta.)
20+36.53-38+61.08	Rt.	18.24
39+60.93-59+41.82	Rt.	19.80
60+63.15-73+48.67	Rt.	12.85
74+15.85-104+72.79	Rt.	30.57
TOTAL		81.46

SUMMARY OF PAVEMENT MARKING		
STATION	SIDE	QUANTITY (L.F.)
12" PREFORMED THERMAL PLASTIC		
19+52-20+47	Rt.	95
19+69-20+33	Rt.	64
59+52-60+54	Rt.	102
59+62-60+67	Rt.	105
℄ 72+66.5	54'Rt.-98'Rt.	44
℄ 72+75.5	54'Rt.-98'Rt.	44
73+54-74+13	Rt.	59
73+45-74+21	Rt.	76
TOTAL		589
24" PREFORMED THERMAL PLASTIC		
38+83-39+18	Rt.	35
59+53-59+89	Rt.	36
73+62-73+84	Rt.	22
℄ 72+98	54'Rt.-75'Rt.	21
℄ 72+45	76'Rt.-100'Rt.	24
TOTAL		138
4" PREFORMED THERMAL PLASTIC		
72+97-73+25	Rt.	28
72+97-73+25	Rt.	28
TOTAL		56

RECAPITULATION OF QUANTITIES		
ITEM	QUANTITY	UNIT
Clearing Right of Way	Lump Sum	Lump Sum
Sidewalk Construction (4")(AE)	82,012	Sq. Ft.
Lineal Grading Compacted (Type B)(MR-90)	81.46	Station
Erosion Control (BMP'S)	Lump Sum	Lump Sum
Permanent Project Seeding	3.08	Acres
Ornamental Steel Fence (6')	8,125	Lin. Ft.
Relocate Existing 8" Pine Tree ϕ	3	Each
Amur Maple (2") ϕ	22	Each
Chanticleer Pear (2") ϕ	40	Each
Caddo Sugar Maple (2") ϕ	12	Each
Chinese Pistachia (2 1/2") ϕ	15	Each
Lacebark Elm (2") ϕ	19	Each
Oklahoma Redbud (2") ϕ	21	Each
Snowdrift Crab (2") ϕ	17	Each
Sweetgum (2") ϕ	25	Each
Skyline Honeylocust (2") ϕ	16	Each
Trumpet Honeysuckle (1 gal.) ϕ	31	Each
Mulch (Shredded Cypress) ϕ	1900	Sq. Ft.
Bike Path Signage	Lump Sum	Lump Sum
Pavement Marking (Preformed Thermal Plastic)(4")	56	Lin. Ft.
Pavement Marking (Preformed Thermal Plastic)(12")	589	Lin. Ft.
Pavement Marking (Preformed Thermal Plastic)(24")	138	Lin. Ft.

ϕ Non-Participaling Item  
SEE SH. NOS. 11 & 13 FOR RECAP OF TRAFFIC SIGNAL ITEMS.

KANSAS DEPARTMENT OF TRANSPORTATION			
SUMMARY OF QUANTITIES			
<div><div></div><div><b>Professional Engineering Consultants, P.A.</b> 303 S. TOPKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003</div></div>			
Designed by	RMH	Checked by	
Drawn by	SAD	Date	SEPTEMBER 2001 Job No. 96450-002